

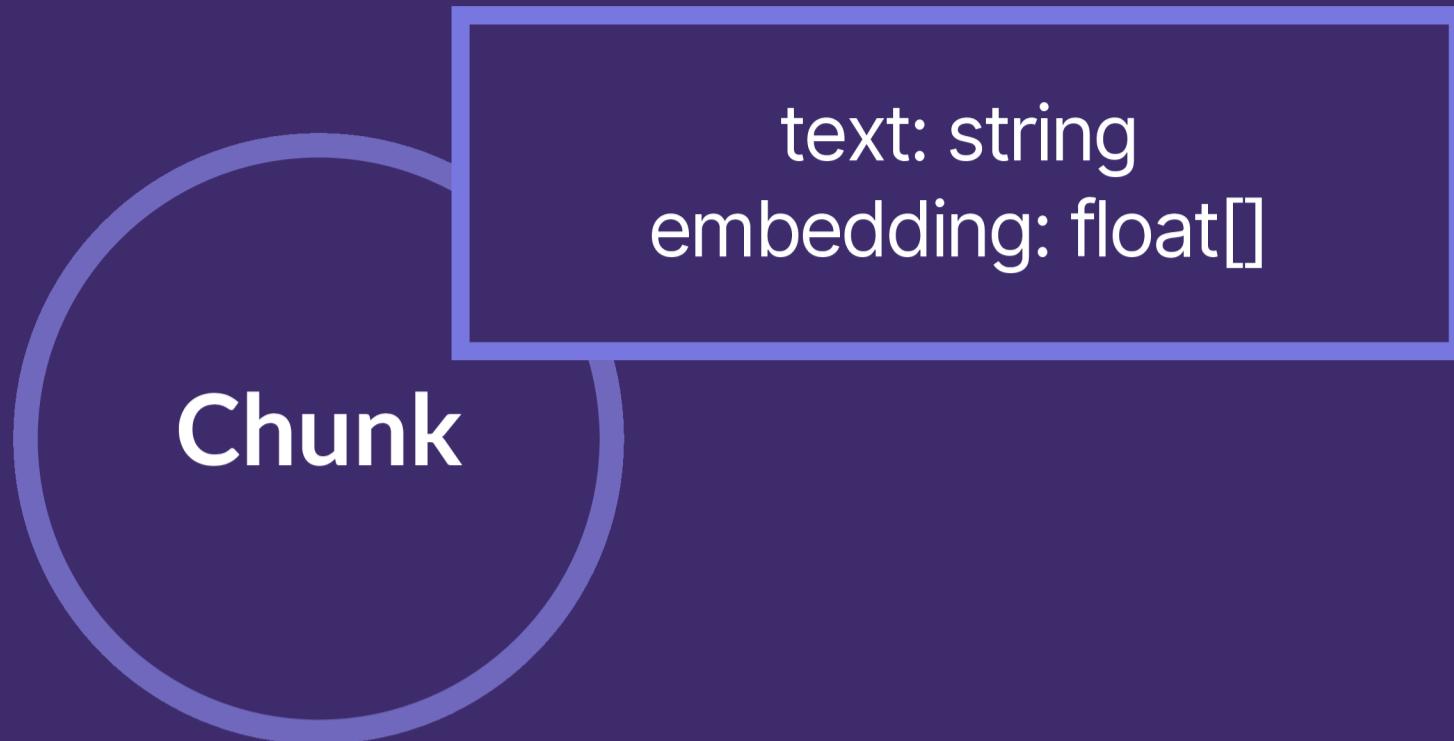
The Essential GraphRAG Patterns

Unlock Smarter Retrieval
for your GenAI Project

Daniel Bukowski

Not All Retrieval Augmented Generation (RAG) is Created Equal

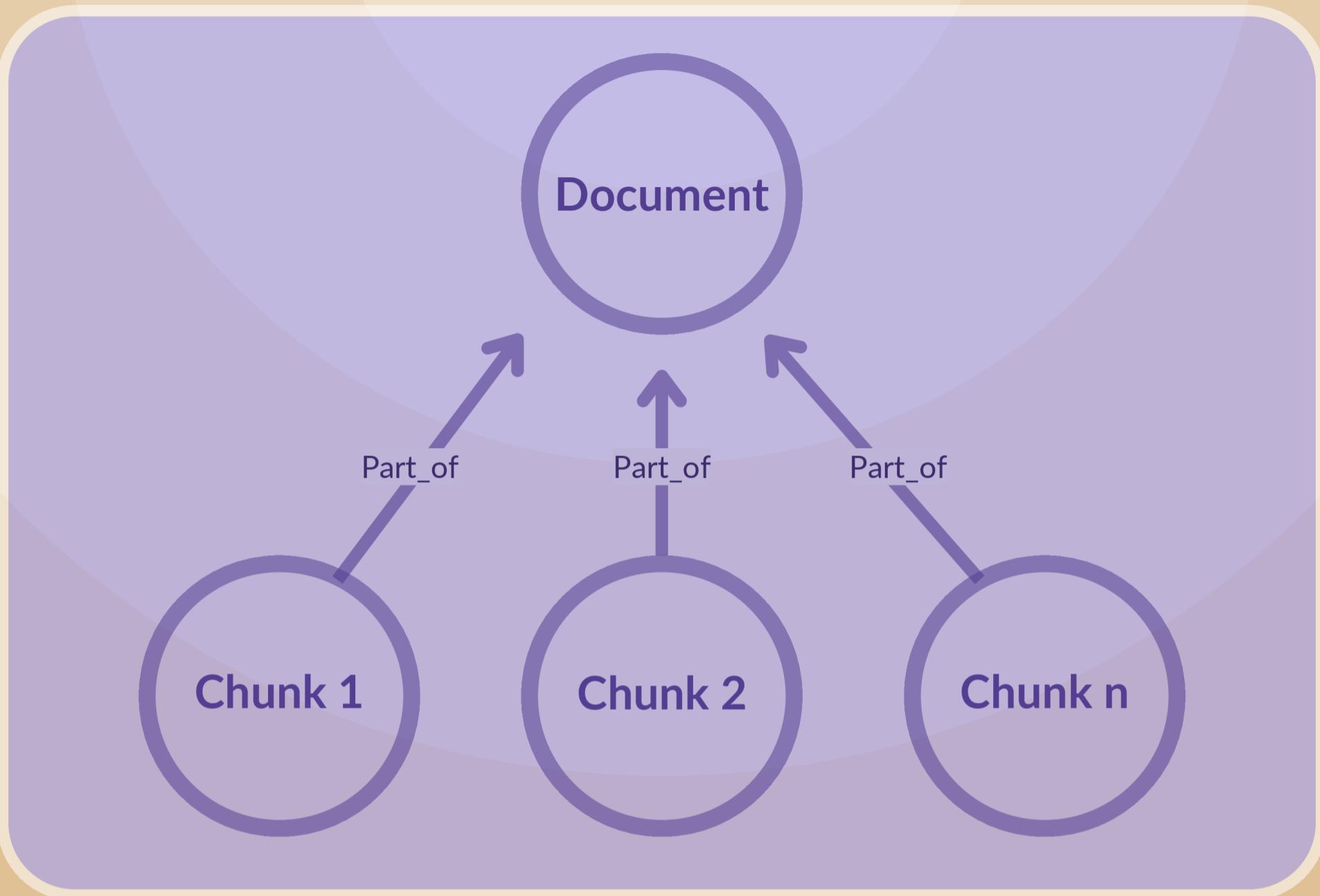
This guide will help you select the GraphRAG pattern that best fits your project and data.



Basic GraphRAG Patterns

In the following three patterns, the nodes represent text chunks and edges represent relationships within the text.



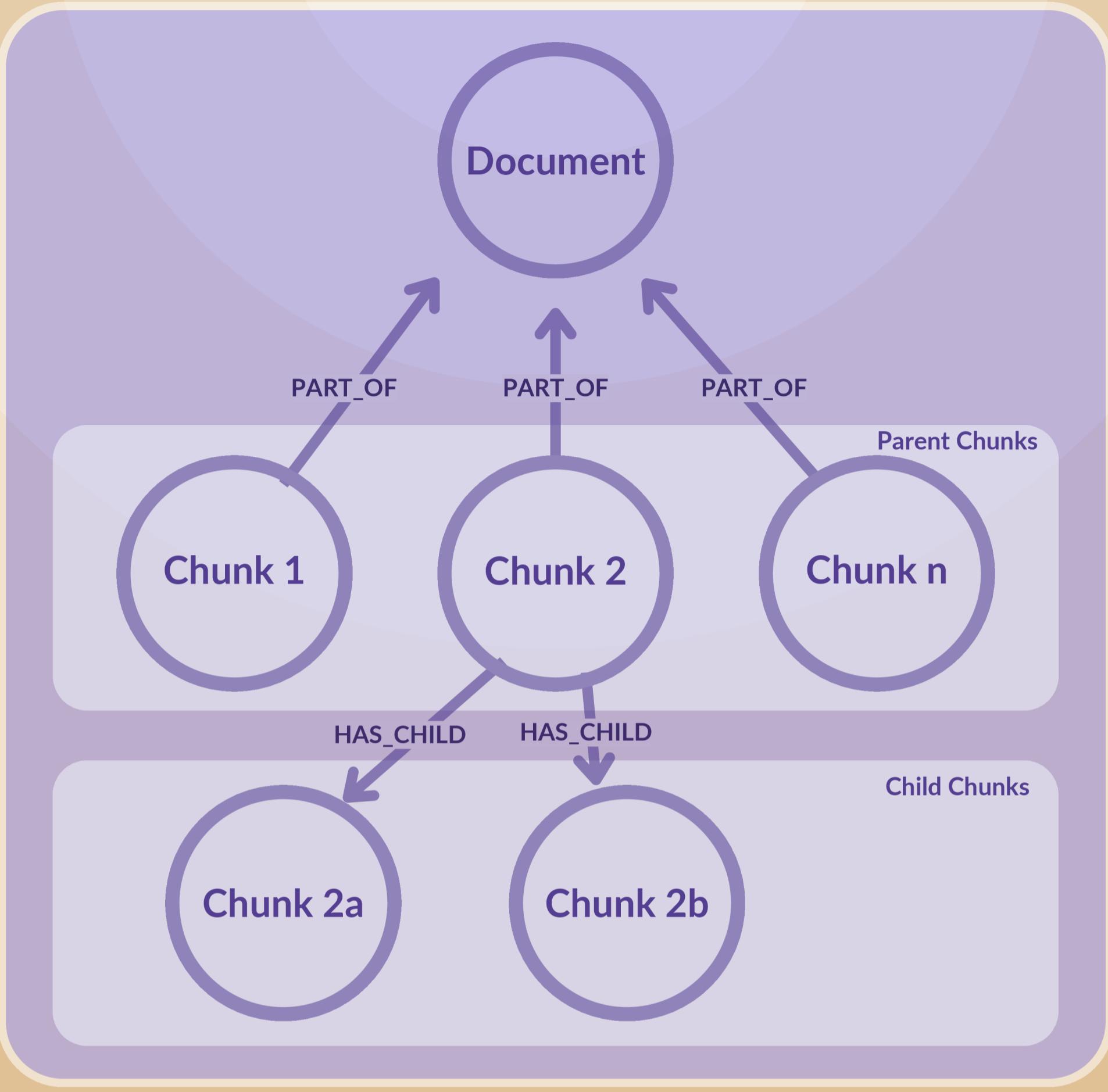


Basic Retriever

Performs vector similarity search
on text chunks.

Simple but lacks deep context.

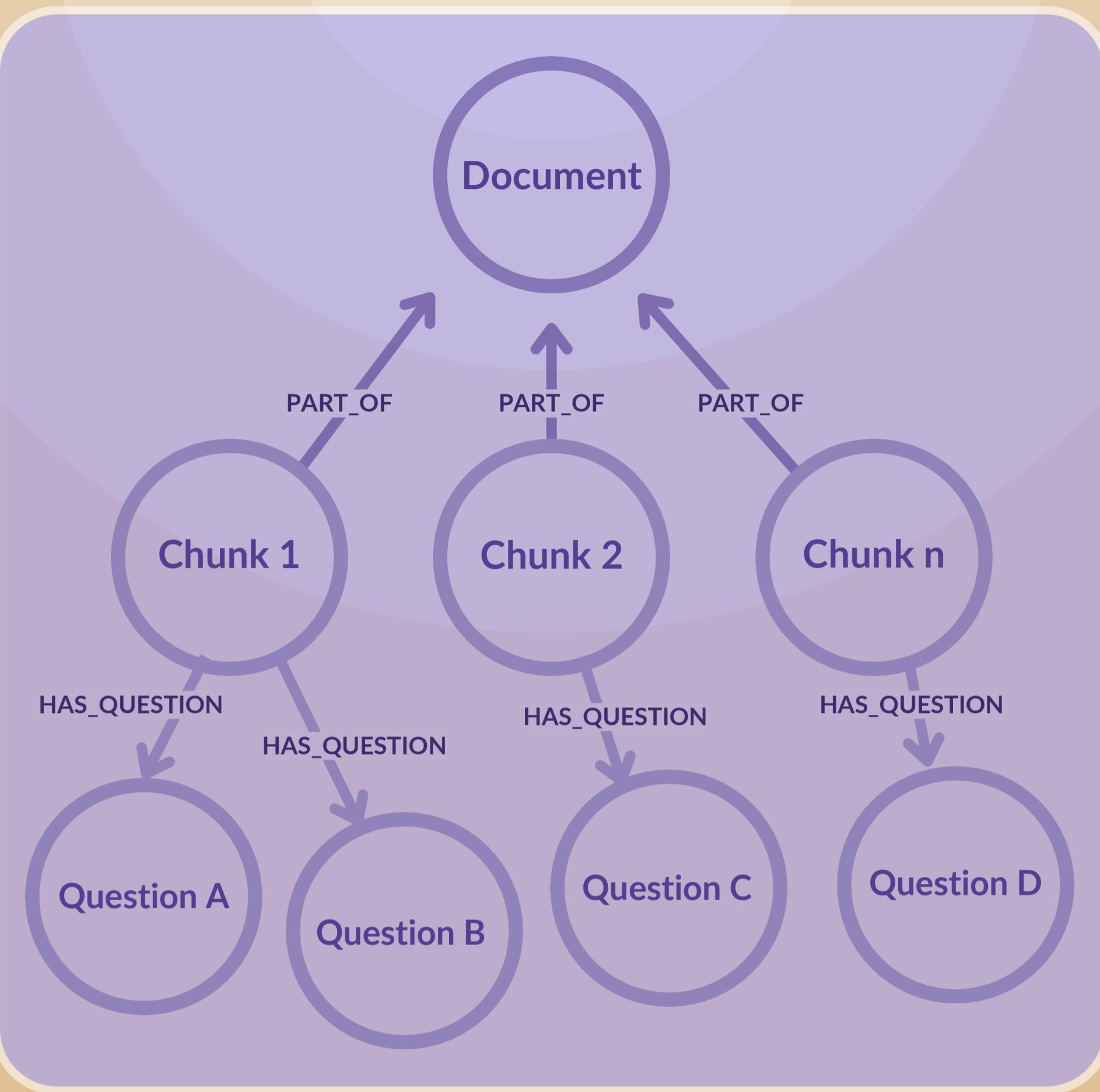




Parent-Child Retriever

Retrieves the parent document of relevant text, boosting answer accuracy with broader context.

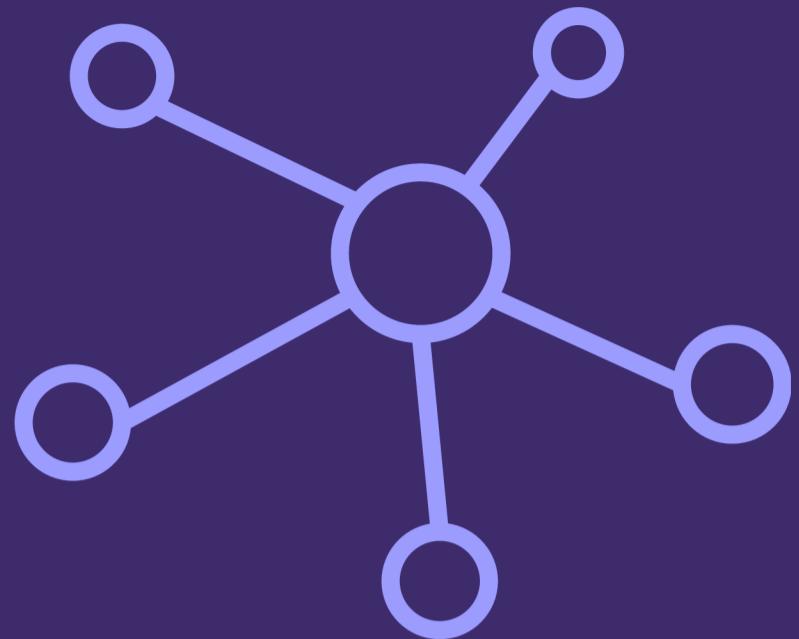




Hypothetical Question Retriever

Matches user questions to pre-generated hypothetical ones. Is effective, but requires more pre-processing.





Intermediate GraphRAG Patterns

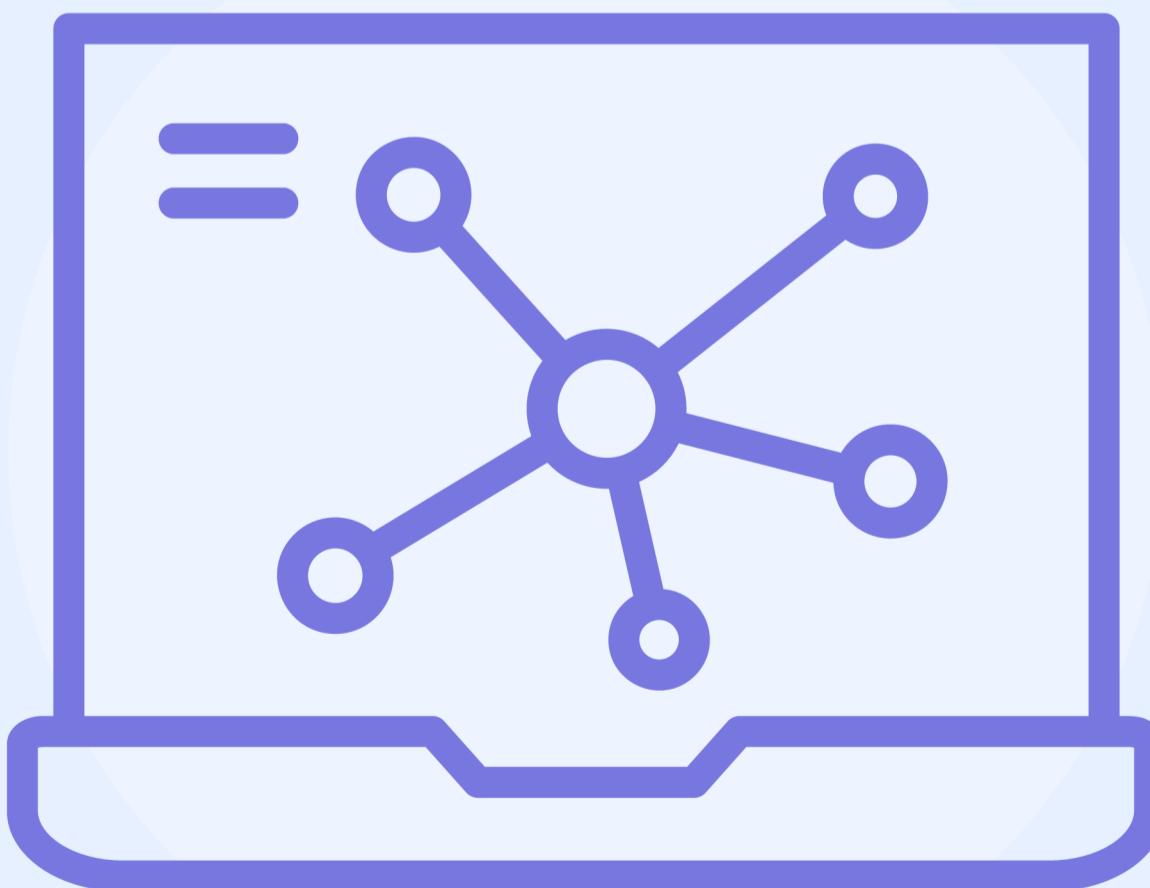
The following three patterns integrate structured data from domain graphs that are queried using Cypher.



Cypher Templates

Retrieve structured data with parameterized Cypher queries.

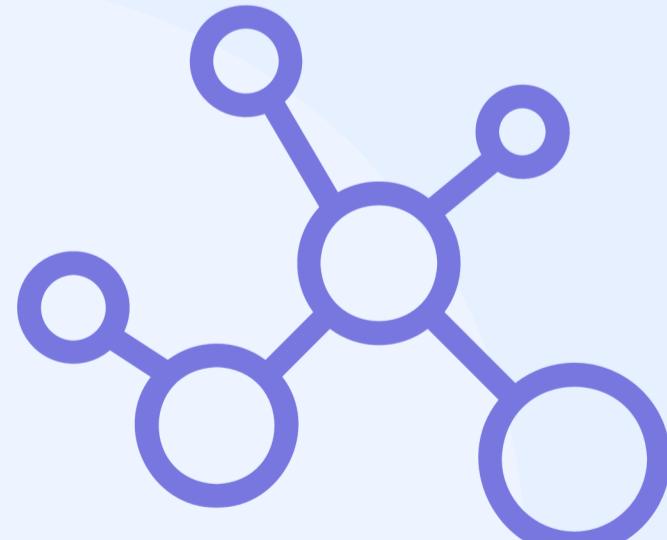
This offers a high-degree of control and accuracy, but less flexibility.



Dynamic Cypher Generation

Snippets of parameterized Cypher with definitions are provided to the LLM.

This provides more flexibility, but requires careful design and preprocessing.

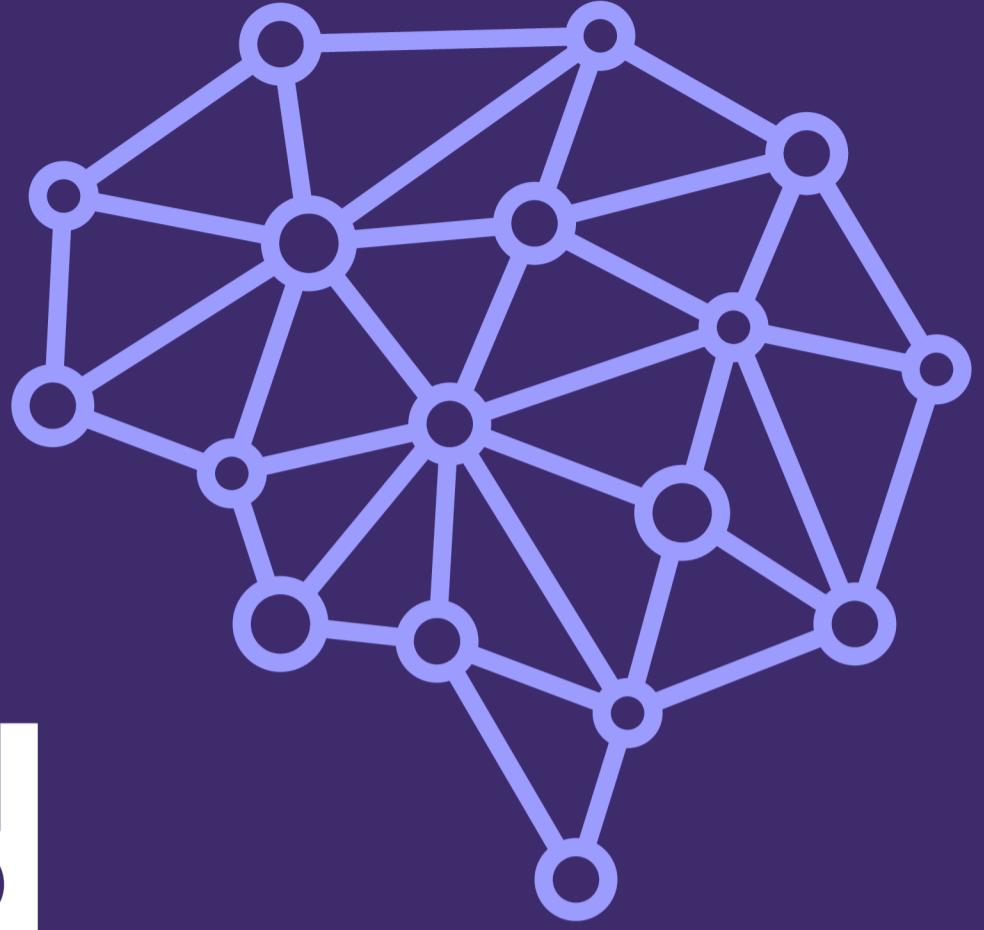


Text2Cypher

Translates natural language into Cypher queries.

Highly flexible, but can face challenges with natural language understanding and complex Cypher generation.

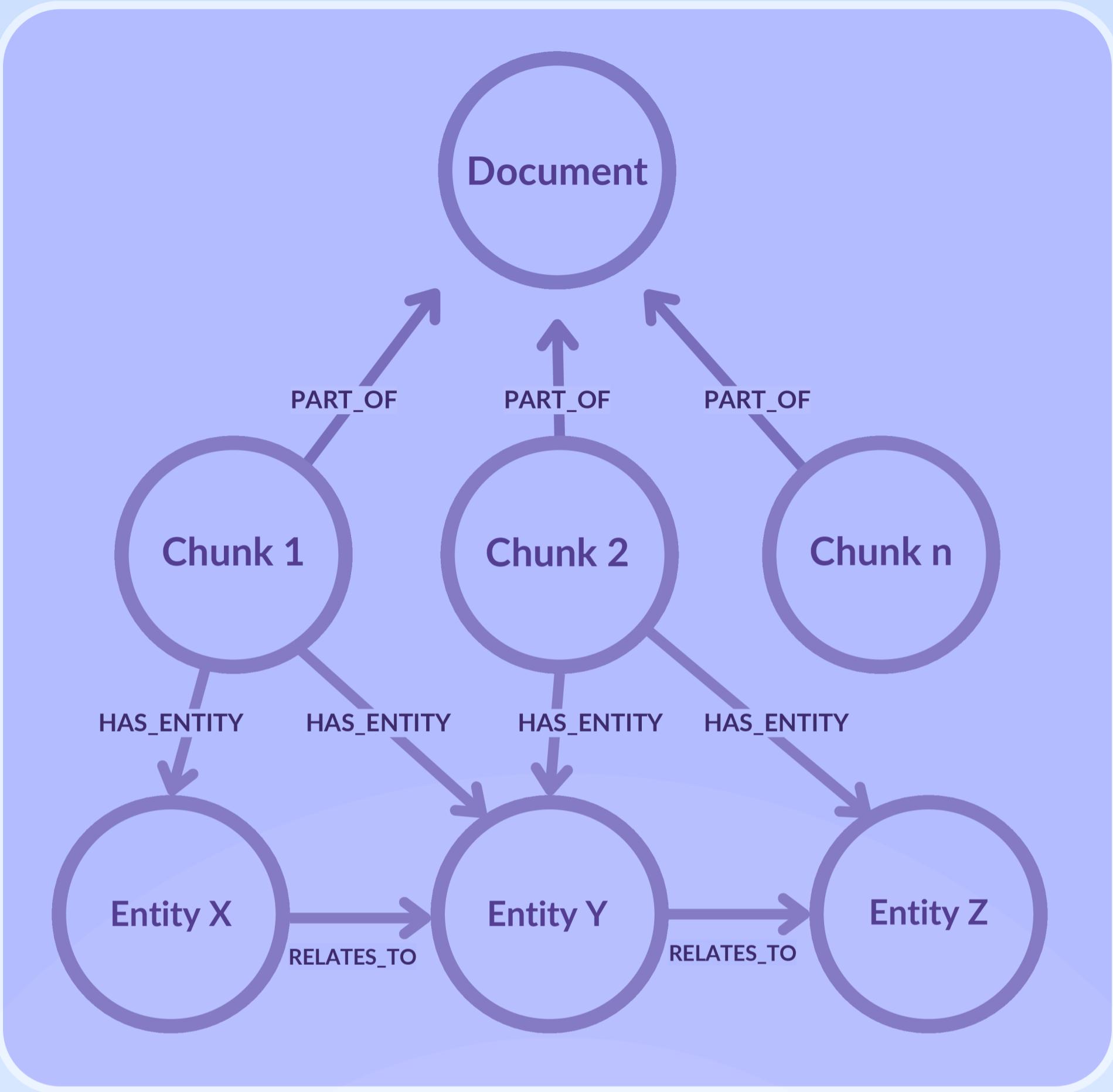




Advanced GraphRAG Patterns

The final two patterns combine graph traversal with vector search for the most context-rich retrieval capabilities.





Graph-Enhanced Vector Search

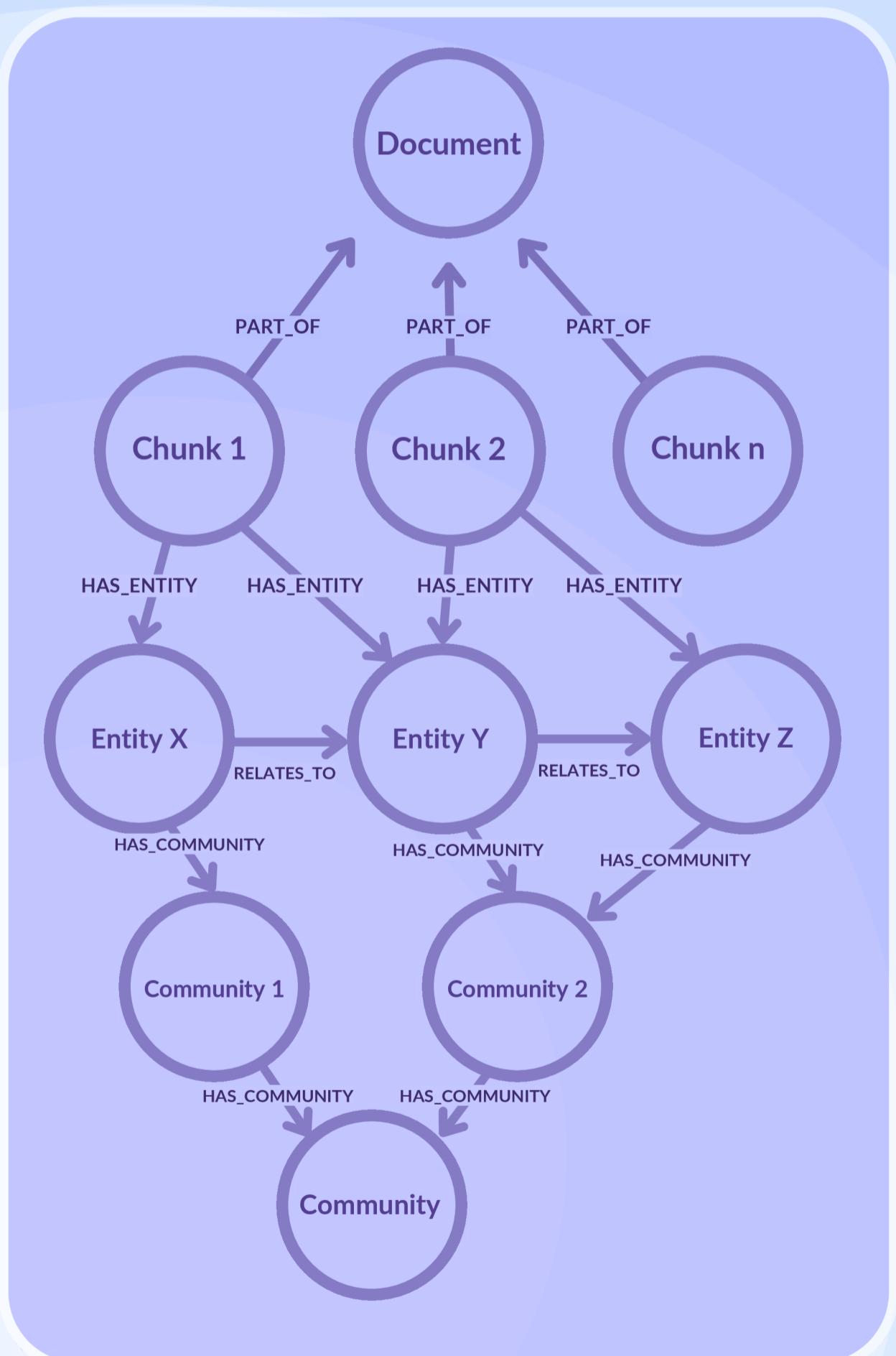
Combines vector search with graph traversal. Can retrieve related entities for highly relevant answers.



Global Community Summary Retriever

Uses community detection to summarize entities.

Ideal for global questions on overarching themes.





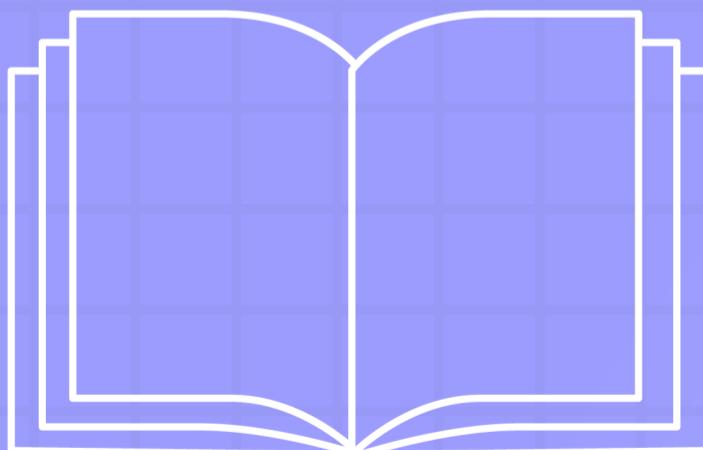
The power of GraphRAG is why at data2 we built the reView AI analytics platform on a foundation of knowledge graphs.

Want to learn more?

Check out Neo4j's GraphRAG.com
as well as

**The GraphRAG Field Guide:
Navigating the World of Advanced
RAG Patterns by Elena Kohlwey**

for full details about each of these
GraphRAG patterns.





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